

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BOARD OF PATENT APPEALS AND INTERFERENCES**

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In re Application of:	Pawel DRABAREK	:
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Serial No.:	10/591,502	:
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Filed:	August 20, 2007	:
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For:	INTERFEROMETRIC MEASURING SYSTEM	:
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Examiner:	Michael A. LYONS	:
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Art Unit:	2877	:
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Confirmation No.:	2336	:
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Signature: /Kevin Kambo/  
Kevin Kambo

**APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37**

SIR:

On December 8, 2009, Appellant filed a Notice of Appeal from the last decision of the Examiner contained in the Final Office Action dated September 11, 2009 in the above-identified patent application.

In accordance with 37 C.F.R. § 41.37, this brief is submitted in support of the appeal of the rejection of claims 8 to 13. For at least the reasons set forth below, the rejection of claims 8 to 13 should be reversed.

**1. REAL PARTY IN INTEREST**

The real party in interest in the present appeal is ROBERT BOSCH GMBH of Stuttgart in the Federal Republic of Germany, which is the assignee of the entire right, title and interest in and to the present application.

**2. RELATED APPEALS AND INTERFERENCES**

There are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellant or the assignee, ROBERT BOSCH GMBH, “which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.”

**3. STATUS OF CLAIMS**

Claims 8 to 13 are pending.

Claims 1 to 7 have been canceled.

Claims 8 to 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,901,176 (“Balachandran et al.”).

A copy of the appealed claims, *i.e.*, claims 8 to 13, is attached hereto in the Claims Appendix.

**4. STATUS OF AMENDMENTS**

In response to the Final Office Action dated September 11, 2009, Appellant filed a “Reply Under 37 C.F.R. § 1.116” (“the Reply”) on November 9, 2009. The Advisory Action dated November 17, 2009 indicated that the proposed amendments to the claims included in the “Reply Under 37 C.F.R. § 1.116” would be entered. It is Appellant’s understanding that the claims as included in the annexed “Claims Appendix” reflect the current claims.

**5. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The appealed claims contain one (1) independent claim, *i.e.*, claim 8.

Independent claim 8 relates to an interferometric measuring system for measuring a shape deviation, position, surface properties, and vibrations of an object. *Specification* at page 3, lines 26 to 27; Figure 1. Claim 8 recites that the interferometric measuring system has a transmitting element. *Specification* at page 4, lines 5 to 6; Figures 1

and 2. According to claim 8, the transmitting element has a modulation interferometer. *Specification* at page 4, line 7; Figures 1 and 2. According to claim 8, the transmitting element also has a radiation source for short-coherent radiation. *Specification* at page 4, lines 6 to 7; Figures 1 and 2. According to claim 8, the modulation interferometer is combined with the radiation source in a transmitter/receiver unit. *Specification* at page 4, lines 5 to 10; Figures 1 and 2. Claim 8 recites that the interferometric measuring system has a measuring probe system connected to the transmitting element, the transmitting element supplying radiation via a common optical path. *Specification* at page 2, lines 17 to 28; Figures 1 and 2. Claim 8 recites that the interferometric measuring system has a receiving element for analyzing a measuring radiation returning from the measuring probe system, the receiving element being combined with the transmitting element in the transmitter/receiver unit. *Specification* at page 4, lines 8 to 10; Figures 1 and 2. According to claim 8, the measuring probe system includes a plurality of measuring probes coupled to the common optical path via respective optical paths. *Specification* at page 2, lines 17 to 18 and page 4, lines 2 to 4; Figures 1 and 2. Claim 8 recites that the interferometric measuring system has a switching device disposed at a coupling point between the common optical path and the respective optical paths to the measuring probes. *Specification* at page 3, line 30 and page 4, lines 29 to 32; Figures 1 and 2. According to Claim 8, the switching device allows the different measuring probes to be individually brought into a bidirectionally transmitting connection with the transmitter/receiver unit for the radiation supplied by the modulation interferometer, on the one hand, and the measuring radiation, on the other hand. *Specification* at page 2, lines 20 to 24; Figures 1 and 2.

## 6. **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The ground of rejection to be reviewed on appeal is whether claims 8 to 13 are unpatentable, under 35 U.S.C. § 103(a), over Balachandran et al.

## 7. **ARGUMENTS**

Claims 8 to 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Balachandran et al. It is respectfully submitted that Balachandran et al. does not render unpatentable these claims for at least the following reasons.

Claim 8 relates to an interferometric measuring system for measuring a shape deviation, position, surface properties, and vibrations of an object, including, *inter alia*, the features of a transmitting element including, a modulation interferometer, and a radiation

source for short-coherent radiation, *the modulation interferometer being combined with the radiation source in a transmitter/receiver unit and the receiving element being combined with the transmitting element in the transmitter/receiver unit.*

Balachandran et al. do not disclose, or even suggest, all of the features of claim 8. Balachandran et al. purport to relate to a fiber optic sensor system for acoustic measurements, including a light source (38), a phase modulator (36), an optical coupler (34), an optical switch (30), a sensor array (40), a photodetector (28), and a personal computer (42). The Final Office Action at page 2 refers to the light source (38) of Balachandran et al. as disclosing a radiation source for short-coherent radiation. According to Fig. 3 of Balachandran et al., however, the light source (38) is situated outside and separate from IOC phase modulator (36) which contains interferometer (22). In contrast, the radiation source of the present claim is combined with the modulation interferometer in the same unit, namely, the transmitter/receiver unit (Fig. 2, and page 4, lines 5 to 10). Nowhere, do Balachandran et al. disclose, or even suggest, that the modulation interferometer is combined with the radiation source in a transmitter/receiver unit.

Furthermore, nowhere do Balachandran et al. disclose, or even suggest, that *the receiving element is combined with the transmitting element in the transmitter/receiver unit.* According to Fig. 3 of Balachandran et al., the transmitting element and the receiving element are separate from each other. Combining these features, as in the present invention, results in a reduction of size, cost, and complexity.

For all of the foregoing reasons, it is respectfully submitted that Balachandran et al. do not disclose, or even suggest, all of the features included in claim 8. Therefore, it is respectfully submitted that Balachandran et al. do not render unpatentable these claims for at least the foregoing reasons.

As for claims 9 to 13, which depend from claim 8, and therefore include all of the features included in claim 8, it is respectfully submitted that Balachandran et al. do not render unpatentable these dependent claims for at least the reasons more fully set forth above.

In view of all of the foregoing, reversal of this rejection is respectfully requested.

## **8. CLAIMS APPENDIX**

A “Claims Appendix” is attached hereto and appears on the two (2) pages numbered “Claims Appendix 1” and “Claims Appendix 2.”

**9. EVIDENCE APPENDIX**

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131 or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal. An “Evidence Appendix” is nevertheless attached hereto and appears on the one (1) page numbered “Evidence Appendix.”

**10. RELATED PROCEEDINGS APPENDIX**

As indicated above in Section 2, “[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellant or the assignee, ROBERT BOSCH GMBH, ‘which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.’” As such, there are no “decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]” to be submitted. A “Related Proceedings Appendix” is nevertheless attached hereto and appears on the one (1) page numbered “Related Proceedings Appendix.”

**11. CONCLUSION**

For at least the reasons indicated above, Appellant respectfully submit that the art of record does not disclose or suggest the subject matter as recited in the claims of the above-identified application. Accordingly, it is respectfully submitted that the subject matter as set forth in the claims of the present application is patentable.

In view of all of the foregoing, reversal of the rejection set forth in the Final Office Action is therefore respectfully requested.

Respectfully submitted,

/Clifford A. Ulrich/

Dated: April 2, 2010

By Clifford A. Ulrich, Reg. No. 42,194 for:  
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## **CLAIMS APPENDIX**

8. An interferometric measuring system for measuring a shape deviation, position, surface properties, and vibrations of an object, comprising:
- a transmitting element including:
    - a modulation interferometer, and
    - a radiation source for short-coherent radiation, the modulation interferometer being combined with the radiation source in a transmitter/receiver unit;
  - a measuring probe system connected to the transmitting element, the transmitting element supplying radiation via a common optical path;
  - a receiving element for analyzing a measuring radiation returning from the measuring probe system, the receiving element being combined with the transmitting element in the transmitter/receiver unit, wherein:
    - the measuring probe system includes a plurality of measuring probes coupled to the common optical path via respective optical paths; and
    - a switching device disposed at a coupling point between the common optical path and the respective optical paths to the measuring probes, wherein:
      - the switching device allows the different measuring probes to be individually brought into a bidirectionally transmitting connection with the transmitter/receiver unit for the radiation supplied by the modulation interferometer, on the one hand, and the measuring radiation, on the other hand.
9. The system as recited in Claim 8, wherein at least one of the common optical path and the respective optical paths include monomode optical fibers.
10. The system as recited in Claim 8, wherein the switching device has manually or automatically switchable control elements.
11. The system as recited in Claim 10, wherein electrically, pneumatically, hydraulically, or magnetically operated actuating elements are provided for switching.
12. The system as recited in Claim 8, wherein the switching device is controlled via a control device to which is also connected the transmitter/receiver unit for correlating the results to the respective measuring probes and for separate evaluations.

13. The system as recited in Claim 8, wherein the measuring probes are individually assigned or assignable to a surface to be measured, form individual measurement channels of a probe unit, are arranged in groups in one or a plurality of measuring stations, are arranged in a higher-level interconnected system of measuring devices, or integrated into a combination of such arrangements.

## **EVIDENCE APPENDIX**

No evidence has been submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal.



### **RELATED PROCEEDINGS APPENDIX**

As indicated above in Section 2 of this Appeal Brief, “[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellant or the assignee, ROBERT BOSCH GMBH, ‘which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.’” As such, there are no “decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]” to be submitted.